



# The Window Strategy with Options

## Curriculum Guide

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### I. Goals and Objectives

- A. Learn what a window is and how one is constructed.
- B. Learn how to derive the floor price and price ceiling.
- C. Learn how selecting different strike prices effects the floor price and price ceiling.

### II. Descriptions/Highlights

- A. There are several marketing strategies utilizing futures and options that establish a floor price and allow for upside price potential. The problem often times with options is that the premium is higher than may producers can justify. With futures, the financial risks involved is more than some producers can bear.
- B. One hedging strategy that sets a price floor and allows for limited upside price potential while also reducing option premium costs is referred to as a window (or fence). The window strategy is comprised of simultaneously buying a put option and selling a call option.
- C. The window strategy can be customized to best fit your situation (due to the variety of strike prices available). For example, you can choose strike prices so that the premium received from the call option totally offsets the cost of the put option, establishes a floor price that at least covers your variable costs, or any other possible objective you may want to achieve with your window strategy. The window, or the range between the floor price and price ceiling, is determined by these two strike prices.
- D. With a window, the floor price is derived similar to the purchase of a put option. The difference is that with a window you need to take into account the premium received from selling (writing) the call option.
- E. The writing of the call option is what establishes the price ceiling, or maximum net price you receive. The method of deriving the price ceiling (Figure 2) is the same as for determining the price floor except that you start off with the call strike price rather than the put strike price.

F. The writing of a call option requires a margin account be maintained because the option writer (seller) must maintain equity in his/her position. Call option sellers should also be aware of the possibility of being exercised upon.

G. The Jack Farmer window strategy illustration:

- ! Jack's window consists of buying a \$2.80 put (\$.20) and selling a \$3.20 call (\$.12)
- ! Review Table 1- key points
- ! When the futures price is equal to or less than the put strike price, the net price received is the same and is equal to the floor price.
- ! When the futures price is between the two strike prices, a loss is incurred on the put option and is equal to the put premium. The put option expires having no value.
- ! Also, when the futures price is equal to or below the call strike price, you keep the entire amount received from selling the call option. This is the single most important advantage of the window strategy, i.e., downside price protection provided by the put option is less costly because income received from selling the call option reduces the cost of the put option.
- ! With Jack's window, the net cost of the put option is \$.08 (\$.12 - \$.20) if the futures price remains below the call strike price. When the price is rising, yet remains below the call strike price, Jack benefits to the full extent of the price increase.
- ! When the futures price moves above the call strike price, Jack will more than likely be exercised upon thus placing him in a short position at the call strike price. The higher the futures price, the bigger the loss incurred from selling the call option. The cash price is also rising and offsetting the loss on the call which develops into the price ceiling.

H. Producers considering a window strategy need to be aware of the added risks associated with poor crop production. If your crop yield falls short of the amount hedged, and prices rise significantly, there may not be enough production to sell in the cash market to offset the loss on the call option.

I. A window strategy may be useful when you:

- ! feel prices are high enough to cover break- even costs but are uncertain as to the future direction of the market.
- ! believe the put premium is too high.
- ! need or want downside price protection but want to retain some upside potential.
- ! are willing to accept the price ceiling if the futures price moves above the call option strike price.

### III. Potential Speakers

- A. Extension Economists
- B. Local elevator managers

## IV. Review Questions

1. A wheat producer initiates a window strategy for a portion of his crop. He buys a \$3.10 put option with a \$.23 premium, sells a \$3.50 call option with a \$.15 premium, estimates the basis to be -.20, and has brokerage fees of \$.02 (per bu.). What is the floor price for this window strategy?

A) \$2.80      B) \$3.20      C) \$2.94      D) \$2.50

Answer: A) \$2.80; put strike (\$3.10) - put premium (\$.23) + call premium received (\$.15) + local basis (- \$.20) - brokerage fees (\$.02).

2. For the above window strategy, what is the price ceiling?

A) \$2.90      B) \$2.80      C) \$3.20      D) \$3.28

Answer: C) \$3.20; call strike (\$3.50) - put premium (\$.23) + call premium received (\$.15) + local basis (- \$.20) - brokerage fees (\$.02).

3. The window strategy requires a margin account.

True    False

Answer: True; a margin account must be established due to the selling of the call option.

## V. For More Details

Don Hofstrand. Grain Price Options Fence, A2-69, Ag Decision Maker. Iowa State University Extension Service. May, 1995.

Craig Fincham, Jim Mintert, Mark Waller, William Tierney. Introduction to Options, RM2-2.0, Risk Management Curriculum Guide. Texas Agriculture Extension Service.

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# The Window Strategy With Options

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## ! What is a Window Strategy?

- ☞ Simultaneously buy a put option and sell a call option
- ☞ Creates a floor price and a price ceiling

## ! Advantages of Window Strategy

- ☞ You can customize the window strategy to best fit your situation
- ☞ Reduces the cost of the put option
- ☞ Still allow for upside price potential (limited by a price ceiling)
- ☞ Establishes a floor price

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# The Window Strategy With Options

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## ! Disadvantages of Window Strategy

- ☞ Selling a call option requires that a margin account be established.
- ☞ Risk associated with poor crop production and rising prices - could result in large loss on call option and insufficient cash grain sales to cover it
- ☞ Places an upper limit on the net price you receive

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# The Window Strategy With Options

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## Floor Price

- ☞ The put strike price is the primary determinant of the floor price

$$\begin{aligned} & \text{Put strike price} \\ & - \text{Put premium paid} \\ & + \text{Call premium received} \\ & + \text{Local basis (may be negative)} \\ & - \text{Brokerage/transaction costs} \\ & = \text{Window floor price} \end{aligned}$$

## Price Ceiling

- ☞ The call strike price is the primary determinant of the price ceiling

$$\begin{aligned} & \text{Call strike price} \\ & - \text{Put premium paid} \\ & + \text{Call premium received} \\ & + \text{Local basis (may be negative)} \\ & - \text{Brokerage/transaction costs} \\ & = \text{Window price ceiling} \end{aligned}$$

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# The Window Strategy With Options

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## Window Strategy Example - Jack Farmer-

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Jack farmer is thinking about using a window strategy to market a portion of his corn crop in mid-October (at harvest). It is April now. The December futures price is currently \$2.84 and Jack anticipates a basis of  $-\$.10$ . Strike prices and premiums for December corn are:

### Put and Call Information

September Corn		
Strike Price	Put Premium	Call Premium
2.40	3 $\frac{3}{4}$	--
2.50	6 $\frac{1}{2}$	--
2.60	10 $\frac{1}{4}$	--
2.70	15	27 $\frac{3}{4}$
<b>2.80</b>	<b>20</b>	<b>23 <math>\frac{1}{2}</math></b>
2.90	26 $\frac{3}{4}$	20
3.00	33 $\frac{3}{4}$	17
3.10	--	14 $\frac{1}{2}$
<b>3.20</b>	--	<b>12</b>
3.30	--	11

# The Window Strategy With Options



## Estimated Results of Window Strategy

If Dec. Futures:	Est. Basis	Cash Price	Put Gain/Loss	Call Gain/Loss	Brok. Fees	Net Price
\$2.50	-\$0.10	\$2.40	+\$0.10	+\$0.12	\$0.02	\$2.60
\$2.60	-\$0.10	\$2.50	\$0.00	+\$0.12	\$0.02	\$2.60
\$2.70	-\$0.10	\$2.60	-\$0.10	+\$0.12	\$0.02	\$2.60
\$2.80 strike	-\$0.10	\$2.70	-\$0.20	+\$0.12	\$0.02	\$2.60
\$2.90	-\$0.10	\$2.80	-\$0.20	+\$0.12	\$0.02	\$2.70
\$3.00	-\$0.10	\$2.90	-\$0.20	+\$0.12	\$0.02	\$2.80
\$3.10	-\$0.10	\$3.00	-\$0.20	+\$0.12	\$0.02	\$2.90
\$3.20 strike	-\$0.10	\$3.10	-\$0.20	+\$0.12	\$0.02	\$3.00
\$3.30	-\$0.10	\$3.20	-\$0.20	+\$0.02	\$0.02	\$3.00
\$3.40	-\$0.10	\$3.30	-\$0.20	-\$0.08	\$0.02	\$3.00
\$3.50	\$0.10	\$3.40	-\$0.20	-\$0.18	\$0.02	\$3.00

Graphic Illustration of Jack's Window

